

Docket No. AJUTZ.0101

**CLAIMS:**

What is claimed is:

- 5 1. A center punch comprising:
- an end cap;
  - a hammer that is spring-loaded with a spring against the end cap and positioned along an axis;
  - a punch head assembly positioned on the axis;
  - 10 a latch configured to reversibly restrain movement of the hammer along the axis in response to rotational movement of the latch about the axis;
  - wherein a force applied to the end cap causes the spring to compress,
  - 15 in response to compression of the spring, the latch rotates about the axis in a first direction and releases the hammer, and
  - in response to the hammer being released, the spring becomes uncompressed, causing the hammer to move along
  - 20 the axis to strike the punch head assembly.
2. The center punch of claim 1, wherein in response to the hammer having moved along the axis, the latch rotates in a second direction and restrains the hammer.
- 25
3. The center punch of claim 1, further comprising:
- a cam sleeve having a first cam surface; and
  - a cam pin attached to the latch,
  - wherein compression of the spring causes the cam pin
  - 30 to engage the first cam surface, and

Docket No. AJUTZ.0101

the cam pin's engaging the first cam surface causes the latch to rotate in the first direction.

4. The center punch of claim 3, wherein the cam sleeve  
5 includes a second cam surface,

movement of the hammer along the axis causes the cam pin to engage the second cam surface, and

the cam pin's engaging the second cam surface causes the latch to rotate in the second direction.

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5. The center punch of claim 3, wherein the cam sleeve includes a groove,

the hammer includes a pin that is positioned within the groove, and

- 15 the pin's placement within the groove prevents the hammer from rotating about the axis.

6. The center punch of claim 1, wherein the latch includes a shaft with shaft splines,

20 the hammer includes a bore with bore splines,

the shaft is positioned to fit within the bore, rotation of the latch in the first direction causes the shaft splines to rotate into alignment with the bore splines,

- 25 rotation of the latch in the second direction causes the shaft splines to rotate out of alignment with the bore splines.

7. The center punch of claim 1, wherein the punch head  
30 assembly includes a punch head and an anvil, and

Docket No. AJUTZ.0101

the punch head is attached to the anvil.

8. The center punch of claim 1, further comprising:

an alignment fixture including a bore and adapted to  
5 hold a fixed location with respect to a work surface

wherein the punch head assembly is positioned within  
the bore of the alignment fixture so as to hold the punch  
head in a stationary position on the work surface.

10 9. The center punch of claim 1, wherein the alignment  
fixture includes a flat surface adapted to engage a flat  
work surface.

10. The center punch of claim 1, wherein the alignment  
15 fixture includes a concave surface adapted to engage a  
work surface that is not flat.

11. The center punch of claim 10, wherein the concave  
surface is adapted to engage a curved work surface.